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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/529,384	03/28/2005	Kazuaki Bando	1207-116	4363
23117 7590 01/02/2008 NIXON & VANDERHYE, PC 901 NORTH GLEBE ROAD, 11TH FLOOR ARLINGTON, VA 22203				
EXAMINER				
SCRUGGS, ROBERT J				
ART UNIT		PAPER NUMBER		
3723				
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01/02/2008		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/529,384

Applicant(s)

BANDO, KAZUAKI

Examiner

ROBERT SCRUGGS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-24 is/are pending in the application.
- 4a) Of the above claim(s) 1-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/CDC)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. This office action is in response to the amendment received on October 22, 2007. Applicant has cancelled claims 1-12 and added claims 19-24 therefore claims 13-24 have been fully examined.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 13-15, 17-21, 23 and 24 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Bovone (5433657) in view of Ercole et al. (4848005) and Bando (5396736).

In reference to claims 13-15 and 19-21, Bovone discloses a glass-plate working apparatus comprising, grinding means (Column 1, Lines 59-63), grinding support means (Figure 1) that includes, a supporting table (2), a plurality of suction cups (3) and arranging means formed as a user that places the suction cups in their proper position according to the workpiece being machined (Column 3, Lines 44-49), but lacks, transporting means including one lifting device for raising the glass plate to be carried in, another lifting device for raising the glass plate on the suction cup to be carried out and a slider to which said suction-cup lifting device, said one lifting device and said other lifting device are attached and which is linearly movable in one direction.

However, Ercole et al. discloses an automatic machine (Figure 1) (1) for working materials in sheet form (see column 10, lines15-19) comprising, an element support body (12) which supports a plurality of movable elements (10) separately (Column 2, Lines 51-52) from a worktable (2) and a pick-up tool (11) attached to a moving frame (3) that selectively picks up said movable elements (10) from said element support body (12) and positions said elements on said worktable or picks up said elements from said worktable and positions said elements in said element support body. In addition, Bando discloses a glass plate working apparatus with transporting means that includes one lifting device (56a) (Figure 1) for raising the glass plate to be carried in, another lifting device (56B) for raising the glass plate on the suction cup to be carried out and a slider (55) to which said one lifting device and said other lifting device are attached and which is linearly movable in one direction. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the arranging means and the transporting means, of Bovone, with an automatic arranging means that includes a suction cup supporting body separate from the grinding table and a pick-up tool that moves a suction cup from the grinding table to the supporting body or from the supporting body to the grinding table and transporting means formed to include one lifting device for raising the glass plate to be carried in, another lifting device for raising the glass plate on the suction cup to be carried out and a slider to which said pick-up tool, one lifting device and said other lifting device may be attached and which is linearly movable in one direction, in view of Ercole et al. and Bando, in order to allow a user without much experience to accurately and quickly place the suction cups on the

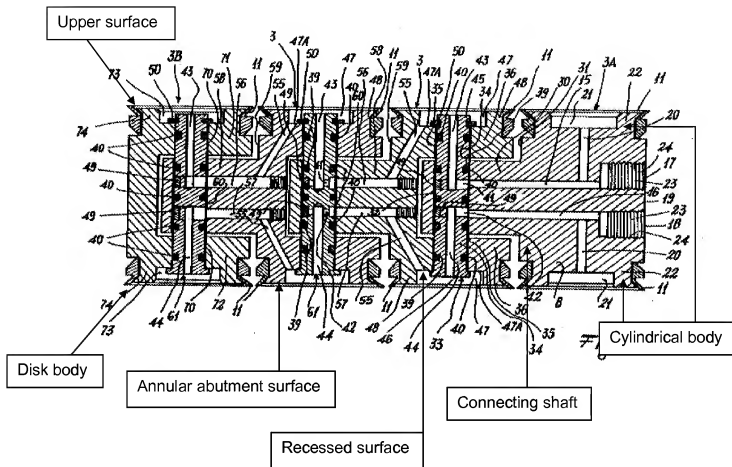
support table according to the desired profile needed by a user and to accurately and quickly place the workpiece on the suction cups.

In reference to claims 17, 18, 23 and 24, Bovone also discloses a suction cup formed with a annular abutment surface (see figure above), a recessed surface (see figure above) held by suction (through lines 15,16,20,55,56).

4. Claims 16 and 22 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Bovone (5433657) in view of Ercole et al. (4848005), Bando (5396736) and Monforte (4809425). Bovone also discloses that the suction cup includes a cylindrical body whose upper surface (see figure below) is covered with an elastic member (11) for abutment against the glass plate (1), a disk body (bottom portion) (see figure below) for abutment against said grinding supporting table and a connecting shaft (see figure below) which connects said disk body and said cylindrical body, but is silent in having a lifting device formed with grippers that move toward or away from each other. However, Monforte teaches that a robotic arm can be formed with multiple types of end effectors (Figures 3a-3h) and that they are all equivalent of one another where one such arm includes grippers (Figure 3f) (210) that move toward and away from one another. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the arranging means, of Bovone, with a lifting device formed with grippers (instead of a pin) that move toward or away from each other, in

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view of Monforte, in order to provide a lifting device that can pick up various size support elements and provide a stronger grasp on the selected element.



5. Claims 13-15, 17-21, 23 and 24 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Bando (5396736) on view of Bovone (5433657) and Ercole et al. (4848005).

In reference to claims 13-15 and 19-21, Bando discloses a glass-plate working apparatus comprising, grinding means (47) for grinding a peripheral edge of a glass

plate (22), grinding supporting means for supporting the glass plate whose peripheral edge is to be ground by said grinding means and transporting means including one lifting device (56A) for raising the glass plate to be carried in, another lifting device (56B) for raising the glass plate on the suction cup to be carried out, and a slider (55) to which said suction-cup lifting device, said one lifting device and said other lifting device are attached, and which is linearly movable in one direction for transporting said glass plate in and out said grinding supporting means by a linear movement thereof crossing above said grinding supporting means, wherein said grinding supporting means includes a grinding supporting table (19), but lacks, a plurality of suction cups held on said grinding supporting table by being attached by suction to said grinding supporting table and suck and hold the glass plate by sucking the glass plate whose peripheral edge is to be ground, and arranging means for disposing said plurality of suction cups, respectively, at positions corresponding to a shape of the glass plate to be ground, wherein said arranging means includes a suction-cup lifting device equipped to said supporting means for raising the suction cup. However, Bovone, grinding support means (Figure 1) that includes; a supporting table (2) and a plurality of suction cups (3). In addition, Ercole et al. discloses an automatic machine (Figure 1) (1) for working materials in sheet form (see column 10, lines15-19) comprising, an element support body (12) which supports a plurality of movable elements (10) separately (Column 2, Lines 51-52) from a worktable (2) and a pick-up tool (11) attached to a moving frame (3) that selectively picks up said movable elements (10) from said element support body (12) and positions said elements on said worktable or picks up said elements from said worktable and

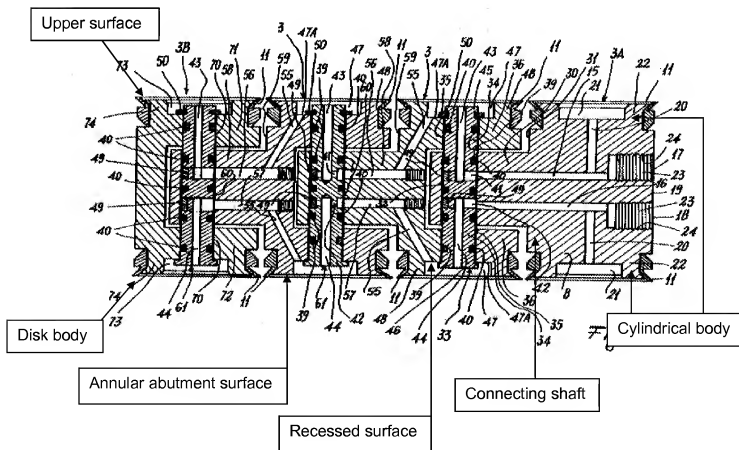
positions said elements in said element support body. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the apparatus of Bando, with a plurality of suction cups held on said grinding supporting table by being attached by suction to said grinding supporting table and suck and hold the glass plate by sucking the glass plate whose peripheral edge is to be ground, and arranging means for disposing said plurality of suction cups, respectively, at positions corresponding to a shape of the glass plate to be ground, wherein said arranging means includes a suction-cup lifting device equipped to said supporting means for raising the suction cup, in view of Bovone and Ercole et al., in order to provide stable and reliable fixing between workpiece and the support surface independently of the shape of the workpiece and to quickly and accurately place the suction cups at the desired locations as needed by a user.

In reference to claims 17, 18, 23 and 24, Bovone also discloses a suction cup formed with a annular abutment surface (see figure above), a recessed surface (see figure above) held by suction (through lines 15,16,20,55,56).

6. Claims 16 and 22 are **Finally** rejected under 35 U.S.C. 103(a) as being unpatentable over Bando (5396736) in view of Bovone (5433657), Ercole et al. (4848005) and Monforte (4809425). Bando in view of Bovone and Ercole et al. disclose the claimed invention previously mentioned above and Bovone further discloses that the suction cups include a cylindrical body whose upper surface (see figure below) is covered with an elastic member (11) for abutment against the glass plate (1), a disk

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body (bottom portion) (see figure below) for abutment against said grinding supporting table and a connecting shaft (see figure below) which connects said disk body and said cylindrical body however Bando is silent in having a lifting device formed with grippers that move toward or away from each other. However, Monforte teaches that a robotic arm can be formed with multiple types of end effectors (Figures 3a-3h) and that they are all equivalent of one another where one such arm includes grippers (Figure 3f) (210) that move toward and away from one another. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the arranging means, of Bando, with a lifting device formed with grippers (instead of a pin) that move toward or away from each other, in view of Monforte, in order to provide a lifting device that can pick up various size support elements and provide a stronger grasp on the selected element.



Response to Arguments

7. Applicant's arguments with respect to claims 13-24 have been considered but are moot in view of the new ground(s) of rejection. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Specifically, the applicant added additional structural limitations pertaining to the transporting means, which now include one lifting device for raising the glass plate to be carried in, another lifting device for raising the glass plate on the suction cup to be carried out, and a slider to which said suction-cup lifting device, said one lifting device and said other lifting device are attached, and which is linearly movable in one direction.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT SCRUGGS whose telephone number is (571)272-8682. The examiner can normally be reached on Monday-Friday, 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

RS
/Joseph J. Hail, III/

Supervisory Patent Examiner, Art Unit 3723